

Prospects for Ocean Aquaculture in South Carolina

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"Science Serving South Carolina's Coast"



**Ocean and Coastal
Resource Management**



DNR

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DHEC-OCRM Overview

- **1972 Federal Coastal Zone Management Act**
- **SC CZM Program established in 1977** under the Coastal Tidelands and Wetlands Act
- **Coastal Management Program approved in 1979**
 - Direct permitting in **Critical Areas** (tidelands, coastal waters, beaches and beach/dune system)
 - Consistency determinations for state & federal activities / permits
 - For ocean aquaculture, both policies and regulations would apply in state waters (policies would apply in federal waters)

DHEC-OCRM Policies

“OCRM review and certification of aquaculture permit applications will be based on the following policies:

- c) ...the value and yield which is anticipated from the project should be weighed against any environmental damage...
- d) Applicants for aquaculture operations must provide an acceptable management plan for the operation.

OCRM also recommends research efforts including...

- i) fixed structure aquaculture in open water;
- iv) trap culture for fish;
- v) bottom culture, to avoid navigational problems.

DHEC-OCRM Regulations

“Mariculture activity is increasing in the coastal waters ... and can be expected to grow considerably in the coming years...potential to increase food supplies and provide employment...need to be controls to insure that disruptions caused by such operations are minimized or eliminated and public trust issues are properly addressed.

Reg. Standards (R. 30-12(O)):

- b) ...must file an operations plan, including:
 - environmental impacts and BMPs
 - use conflicts
 - navigational issues
 - decommissioning and storm damage

SC Ocean Planning Initiative

➤ **Multi-Year Initiative**

- Report on ocean planning in other coastal states (2007)
- Established Ocean Planning Work Group in 2008
 - Facilitate information exchange among agencies & researchers
 - Develop a report to help guide future ocean research, education and policy development
- Recommendations based on series of meetings & workshops:
 - Ocean Governance
 - Ocean Mapping and Monitoring
 - Offshore Sand Resources
 - Ocean Energy Developments
 - Ocean Aquaculture

Ocean Planning Work Group

- **Carolyn Boltin-Kelly**, *SCDHEC-OCRM*
- **Robert Boyles**, *SCDNR Marine Resources*
- **John Mark Dean**, *Univ. of SC Professor Emeritus*
- **Rick DeVoe**, *SC Sea Grant*
- **Cindy Fowler**, *NOAA Coastal Services Center*
- **Paul Gayes**, *Coastal Carolina University*
- **Trish Jerman**, *SC Energy Office*
- **Dwayne Porter**, *University of South Carolina*
- **Paul Sandifer**, *NOAA Hollings Marine Laboratory*
- **Leslie Sautter**, *College of Charleston*

OPWG Website



http://www.scdhec.gov/environment/ocrm/science/ocean_plan.htm

SC Developments in Ocean Planning

- **Ocean Planning Work Group Report ~ Fall, 2011**
- **Regulatory Task Force on Coastal Clean Energy**
 - Interim Recommendations to Leg. Study Committee
- **Legislative Study Committee on Wind Energy Production Farms (Dec. 2009)**
 - Develop leasing framework and “marine spatial plan” for state waters
- **Potential BOEMRE / SC Task Force**
- **Governors’ South Atlantic Alliance (2010)**

Considerations for Ocean Aquaculture

- **Potential Use Conflicts**
 - Recreational and commercial fisheries
 - Marine transportation
 - Sand extraction
 - Co-location with other structures? (i.e. wind turbines, infrastructure)
- **Potential Environmental Impacts**
 - Invasives, disease, genetic contamination
 - Habitat impacts and water quality
 - Entanglement of marine mammals, turtles
- **Lack of leasing framework/clear regulatory process**

Considerations for Ocean Aquaculture

- **Potential Opportunities**

- Sustainable harvests
- Economic development
- Reduced reliance on imports
- Healthy food source
- Alternative livelihood
- Revitalized / working waterfronts
- Co-benefits of local processing facilities / other infrastructure

Goals of Today's "Round Table"

- Get a clear sense of the potential for ocean aquaculture in South Carolina (any interests or opportunity?)
- Gain an understanding of potential use conflicts between ocean aquaculture and other emerging/expanding ocean activities (i.e. energy related facilities, sand mining)
- Identify regulatory, environmental, socioeconomic, and technological concerns and/or opportunities associated with ocean aquaculture in SC.
- Highlight findings of this meeting in the OPWG's final report

Round Table Discussion

- **4 Discussion Questions**
- **~15 min. per question**

Round Table Discussion Questions

- 1. What are the future prospects for open ocean aquaculture in South Carolina? (current interests / future opportunities)**
- 2. What technological and environmental concerns and/or opportunities may be associated with ocean aquaculture in South Carolina?**

Round Table Discussion Questions

- 3. What socioeconomic concerns and/or benefits may be expected (e.g. use conflicts, economics, marketing, work force development)?**
- 4. How could state planning, decision-making, and regulatory frameworks be improved to address these concerns and benefits?**